

IN THE CLAIMS:

Please cancel claims 28 and 34-35, amend claims 27 and 29-31 and add new claims 36-56.

This listing of claims will replace all prior versions, and listings, of claims in the application:

STATUS OF THE CLAIMS:

1-26. (Canceled)

27. (Presently Amended): A method for assessing whether a test candidate compound is useful for modulating tumorigenesis, the method comprising:

a) adding the ~~test~~ compound to be tested to a first composition comprising a polypeptide selected from the group consisting of:

i) a polypeptide that has an amino acid sequence at least 95% 90% identical to SEQ ID NO:2, wherein the polypeptide and that exhibits [[a]] glycosyl transferase 47169 activity; and

ii) a polypeptide comprising a fragment of at least 100 contiguous amino acids of SEQ ID NO:2, wherein the fragment exhibits glycosyl transferase activity;

~~b) comparing the activity in the first composition and in the second composition that is substantially identical to the first composition, except that it lacks the test compound;~~

b) comparing the ability of the compound to modulate tumorigenesis in the first composition as compared to a second composition that is substantially identical to the first composition, except that it lacks the compound, whereby the difference in the ability of the compound to modulate tumorigenesis in the first composition as compared to the second composition is an indication that the compound is useful for modulating tumorigenesis; and

c) selecting a compound capable of modulating tumorigenesis;
thereby assessing whether a compound is useful for modulating tumorigenesis.

~~whereby a difference in the activity in the first and second composition is an indication that the test compound is useful for modulating the phenomenon.~~

28. (Currently Canceled)

29. (Presently Amended): The method of claim 2728, wherein the activity is the ability to transfer an N-acetylgalactosamine moiety from uridine diphosphate to a hydroxyl moiety of a serine or threonine residue of a protein.

30. (Presently Amended): The method of claim 27, wherein the composition comprises a cell ~~which comprises a nucleic acid encoding a 47169 protein.~~

31. (Presently Amended): A method for assessing whether a test candidate compound is useful for modulating tumorigenesis, the method comprising:

a) adding the test compound to be tested to a first composition comprising ~~a cell which comprises a nucleic acid that encodes~~ a polypeptide comprising the amino acid sequence of SEQ ID NO:2; that has an amino acid sequence at least 90% identical to SEQ ID NO:2 and exhibits a 47169 activity; and

~~b) comparing the activity in the first composition and in the second composition that is substantially identical to the first composition, except that it lacks the test compound;~~

b) comparing the ability of the compound to modulate tumorigenesis in the first composition as compared to a second composition that is substantially identical to the first composition, except that it lacks the compound, whereby the difference in the ability of the compound to modulate tumorigenesis in the first composition as compared to the second composition is an indication that the compound is useful for modulating tumorigenesis; and

c) selecting a compound capable of modulating tumorigenesis;
thereby assessing whether a compound is useful for modulating tumorigenesis.

~~whereby a difference in the activity in the first and second composition is an indication that the test compound is useful for modulating the phenomenon.~~

32-33. (Canceled)

34-35. (Currently Canceled)

36. (New): The method of claim 27, wherein the compound is selected from the group consisting of a small molecule, a peptide and an antibody.

37. (New): The method of claim 27, wherein the polypeptide further comprises heterologous sequences.

38. (New): The method of claim 30, wherein the cell is selected from the group consisting of a colon cell, an ovarian cell, a breast cell, a lung cell and a liver cell.

39. (New): The method of claim 31, wherein the compound is selected from the group consisting of a small molecule, a peptide and an antibody.

40. (New): The method of claim 31, wherein the polypeptide further comprises heterologous sequences.

41. (New): The method of claim 31, wherein the composition comprises a cell.

42. (New): The method of claim 41, wherein the cell is selected from the group consisting of a colon cell, an ovarian cell, a breast cell, a lung cell and a liver cell.

43. (New): A method for identifying a candidate compound useful for modulating tumorigenesis, the method comprising:

- a) combining a compound to be tested with a composition comprising a polypeptide selected from the group consisting of:
 - i) a polypeptide which is encoded by a nucleic acid molecule which is at least 95% identical to the nucleotide sequence of SEQ ID NOs:1 or 3, wherein the polypeptide has glycosyl transferase activity.
 - ii) a polypeptide which is at least 95% identical to the amino acid sequence of SEQ ID NO:2, wherein the polypeptide exhibits glycosyl transferase activity; and

iii) a polypeptide comprising a fragment of at least 100 contiguous amino acids of SEQ ID NO:2, wherein the polypeptide exhibits glycosyl transferase activity; under conditions suitable for binding;

- b) assessing the ability of the compound to bind to the polypeptide; and
- c) selecting a compound capable of binding to the polypeptide;

thereby identifying a candidate compound for modulating tumorigenesis.

44. (New): The method of claim 43, wherein the composition is selected from the group consisting of an isolated polypeptide, a membrane-bound form of an isolated polypeptide and a cell comprising the polypeptide.

45. (New): The method of claim 44, wherein the cell is selected from the group consisting of a colon cell, an ovarian cell, a breast cell, a lung cell, and a liver cell.

46. (New): The method of claim 43, wherein the compound is selected from the group consisting of a small molecule, a peptide and an antibody.

47. (New): The method of claim 43, wherein the polypeptide further comprises heterologous sequences.

48. (New): A method for identifying a candidate compound useful for modulating tumorigenesis, the method comprising:

- a) combining a compound to be tested with a composition comprising a polypeptide comprising the amino acid sequence of SEQ ID NO:2 under conditions suitable for binding;
- b) assessing the ability of the compound to bind to the polypeptide; and
- c) selecting a compound capable of binding to the polypeptide;

thereby identifying a candidate compound for modulating tumorigenesis.

49. (New): The method of claim 48, wherein the composition is selected from the group consisting of an isolated polypeptide, a membrane-bound form of an isolated polypeptide and a cell comprising the polypeptide.

50. (New): The method of claim 49, wherein the cell is selected from the group consisting of a colon cell, an ovarian cell, a breast cell, a lung cell, and a liver cell.

51. (New): The method of claim 48, wherein the compound is selected from the group consisting of a small molecule, a peptide and an antibody.

52. (New): The method of claim 48, wherein the polypeptide further comprises heterologous sequences.

53. (New): The method of claim 43, wherein the binding of the test compound to the polypeptide is determined by a method selected from the group consisting of:

- a) direct detecting of test compound/polypeptide binding;
- b) a competition binding assay;
- c) an immunoassay;
- d) a yeast two-hybrid assay; and
- e) an assay detecting the formation of a covalent bond between a carbohydrate (i.e., saccharide) moiety and a hydroxyl or amino moiety of a protein.

54. (New): The method of claim 48, wherein the binding of the test compound to the polypeptide is determined by a method selected from the group consisting of:

- a) direct detecting of test compound/polypeptide binding;
- b) a competition binding assay;
- c) an immunoassay;
- d) a yeast two-hybrid assay; and
- e) an assay detecting the formation of a covalent bond between a carbohydrate (i.e., saccharide) moiety and a hydroxyl or amino moiety of a protein.

55. (New): The method of claim 43, wherein the binding of the test compound to the polypeptide is determined by an assay for an activity of the polypeptide.

56. (New): The method of claim 48, wherein the binding of the test compound to the polypeptide is determined by an assay for an activity of the polypeptide.

57. (New): The method of claim 55, wherein the polypeptide activity is glycosyl transferase activity.

58. (New): The method of claim 56, wherein the polypeptide activity is glycosyl transferase activity.

59. (New): The method of claim 57, wherein the glycosyl transferase activity is the ability to transfer an N-acetylgalactosamine moiety from uridine diphosphate to a hydroxyl moiety of a serine or threonine residue of a protein.

60. (New): The method of claim 58, wherein the glycosyl transferase activity is the ability to transfer an N-acetylgalactosamine moiety from uridine diphosphate to a hydroxyl moiety of a serine or threonine residue of a protein.